

Next, isolation and cloning of full-length cDNA using the fragment of the A55 clone (hereafter A55 SST fragment cDNA) was attempted. It was confirmed that the A55 SST fragment cDNA contains a signal peptide by comparison with known peptides which have signal peptides in view of function and structure.

Example 4

Cloning and sequencing of a full-length cDNA of A55

Phage particles of a cDNA library of mouse day 13 embryonic heart(uni-ZAP XR, Stratagene) were transfected into *E. coli* XL1-Blue MRF* host cells (Stratagene). One million plaques were obtained and transferred to nylon membranes. The membranes were hybridized with 32P-labeled mouse A55 SST fragment cDNA as a probe. Many positive plaques were obtained.

From one positive plaque, the phage particles containing a cloned insert were prepared, and were subjected to conversion into phagemid particles (pBluescript SK(-)) by co-infection of *E. coli* XL1-Blue MRF* host cells (Stratagene) with ExAssist helper phage (Stratagene). The phagemid particles were transfected to *E. coli* DH5a. The plasmids were prepared from the obtained transformants.

Nucleotide sequence of the 5'-end of the cDNA were determined to confirm the existence of the sequences of the SST fragment cDNA. Full-length sequencing was then performed to obtain
 A. Nucleotide sequence
 SEQ ID NO:3.

An open reading frame was determined. The translation region for the amino acid sequence is shown in SEQ ID NO: 1 and the deduced full-length amino acid sequence is shown in SEQ ID NO: 3. A mature version of the protein was deduced to be 425 amino acids, as shown in SEQ ID NO: 2 (144...1418) or 423 amino acids as shown in SEQ ID NO: 4. The translated region